

CLAIMS

- 1 1. A method for transforming multiple one-bit per pixel images for presentation
2 on a device, comprising steps of:
 - 3 a) converting the one-bit per pixel images to multiple bits per pixel images;
 - 4 b) overlapping the multiple bits per pixel images, according to an overlap
5 function, to create a composite multiple bits per pixel image;
 - 6 c) converting the composite multiple bits per pixel image into a dithered one-
7 bit per pixel image by applying a spatial dithering algorithm; and
 - 8 d) presenting the dithered one-bit per pixel image on a display.

- 1 2. The method of claim 1, wherein step a) further comprises applying a first gray
2 level to a first image and a second gray level to a second image wherein the gray
3 levels are applied so as to create visual distinction between the images.

- 1 3. The method of claim 1, wherein step b) further comprises employing an
2 overlap function from among the following: AVERAGE, MAX, ADD, and TOP.

- 1 4. The method of claim 1 wherein steps a), b), and c) are performed in virtual
2 memory.

- 1 5. The method of claim 1, wherein step d) further comprises displaying the
2 dithered one-bit per pixel image on a watch face.

- 1 6. The method of claim 1, wherein the device is a hand-held information
2 processing system.

1 7. The method of claim 1, wherein the device is a one-bit per pixel computer
2 monitor.

1 8. A method for transforming multiple one-bit per pixel images for presentation
2 on a device, comprising steps of:

- 3 a) applying different stipple patterns to each of the one-bit per pixel images to
4 create multiple stippled images;
- 5 b) overlaying the stippled images to create a composite stippled one-bit per
6 pixel image; and
- 7 c) presenting the composite stippled one-bit per pixel image on a display.

1 9. The method of claim 8 wherein step a) further comprises selecting stipple
2 patterns so that when multiple stipple patterns overlap black dots from one stipple
3 pattern do not coincide with the black dots from any other stipple pattern.

1 10. The method of claim 8, wherein the device is a hand-held information
2 processing system.

1 11. The method of claim 8, wherein the device is a one-bit per pixel computer
2 monitor.

1 12. The method of claim 8, wherein steps a) and b) are performed in virtual
2 memory.

1 13. An apparatus for transforming multiple one-bit per pixel images for
2 presentation on a device, comprising logic for performing steps of:

- 3 a) converting the one-bit per pixel images to multiple bits per pixel images;
- 4 b) overlapping the multiple bits per pixel images according to an overlap
5 function to create a composite multiple bits per pixel image;
- 6 c) converting the composite multiple bits per pixel image into a dithered one-
7 bit per pixel image by applying a spatial dithering algorithm; and
- 8 d) generating a signal representing the dithered one-bit per pixel image.

1 14. The apparatus of claim 13 wherein the logic comprises
2 memory for storing instructions for performing the steps a), b), c) and d); and
3 a processor for performing the instructions.

1 15. The apparatus of claim 13, wherein steps a), b), and c) are performed in virtual
2 memory.

1 16. The apparatus of claim 13 further comprising
2 a display for presenting the dithered one-bit per pixel image.

1 17. The apparatus of claim 13, further comprising a timekeeping apparatus
2 wherein the one-bit per pixel image is displayed on a watch face.

1 18. The apparatus of claim 13, wherein the device is a hand-held information
2 processing system.

1 19. The apparatus of claim 13, wherein the device is a one-bit per pixel computer
2 monitor.

1 20. An apparatus for transforming multiple one-bit per pixel images for
2 presentation on a device, comprising logic for performing the steps of:

3 a) applying different stipple patterns to each of the one-bit per pixel images to
4 create stippled images;

5 b) overlaying the stippled images to create a composite stippled one-bit per
6 pixel image; and

7 c) generating a signal representing the composite stippled one-bit per pixel
8 image.

1 21. The apparatus of claim 20, wherein the device is a hand-held information
2 processing system.

1 22. The apparatus of claim 20, wherein the device is a one-bit per pixel computer
2 monitor.

1 23. The apparatus of claim 20 wherein the logic for applying different stipple
2 patterns to each of the one-bit per pixel images further comprises logic for selecting
3 stipple patterns so that when multiple stipple patterns overlap black dots from one
4 stipple pattern do not coincide with the black dots from any other stipple pattern.

1 24. The apparatus of claim 20, further comprising a timekeeping apparatus
2 wherein the one-bit per pixel image is displayed on a watch face.

25. The apparatus of claim 20, wherein steps a) and b) are performed in virtual memory.